

Appln. No. 10/790,959
Response to Office Action mailed August 25, 2006

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R E M A R K S

Applicants are pleased to note that claims 1, 3 and 21 to 23 were deemed by the Examiner to be allowable (see "Allowable Subject Matter" in items 13 to 15 on pages 5 to 6 of the Office Action).

Applicants' present claim 1 is directed to a rolling element which is made from a steel, the steel comprising 0.5 to 1.5 wt% carbon and a total amount of 0.2 to 2.0 wt% of one or more alloy elements selected from the group consisting of V, Ti, Zr, Nb, Ta and Hf; wherein 0.4 to 4.0 % by volume of one or more compounds selected from the group consisting of carbides, nitrides and carbonitrides of said alloy elements having an average particle diameter of 0.2 to 5 μm are dispersed, wherein the rolling element has a rolling contact surface layer, the rolling contact surface layer has a quench hardened layer which has been subjected to induction hardening, the quench hardened layer has a martensite parent phase and the martensite parent phase has a soluble carbon concentration of 0.3 to 0.8 wt%, and one or more of said carbides, nitrides and carbonitrides are dispersed in an

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amount of 0.4 to 4.0% by volume within the martensite parent phase.

Claim 1 was rejected under 35 USC 103 as being unpatentable over JP 60-5854 for the reasons set forth in item nos. 3 to 6 on pages 2 to 3 of the Office Action.

Claim 1 was rejected under 35 USC 103 as being unpatentable over Mitamura et al. (USP 5,338,377) for the reasons indicated in item nos. 7 to 10 on pages 3 to 4 of the Office Action.

It was admitted in the Office Action that each of JP 60-5854 and Mitamura et al. USP 5,338,377 do not teach (i) 0.4 to 4.0% by volume of carbides, nitrides or carbonitrides, as recited in applicants' claim 1 and (ii) a soluble carbon concentration of 0.3 to 0.8 wt%, as recited in applicants' claim 1.

Regarding the feature in applicants' claim 1 that one or more carbides, nitrides or carbonitrides are dispersed in an amount of 0.4 to 4.0% by volume within the martensite parent phase, applicants' claims are distinct from the cited reference in view of the dispersion effect and the attacking probability afforded by such feature.

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Regarding the feature in applicants' claim 1 of a soluble carbon concentration is 0.3 to 0.8 wt%, it should be noted that a high-hardness, high-toughness martensite parent phase is obtained by said range of carbon concentration.

Withdrawal of the obviousness rejections is therefore respectfully requested.

Claims 1, 4 to 12, 20 and 25 to 27 were rejected on the ground of obviousness-type double patenting as being unpatentable over claims 1 to 9 of USP 6,413,328 (Takayama et al.) for the reasons set forth under "Double Patenting" in item nos. 11 and 12 on pages 4 to 5 of the Office Action.

A TERMINAL DISCLAIMER is being filed concomitantly herewith to avoid the double patenting rejection. Also enclosed is a Form PTO-2038 in the amount of \$130 in payment of the required fee for submission of a TERMINAL DISCLAIMER.

Withdrawal of the double patenting rejection is therefore respectfully requested.

Reconsideration is requested. Allowance is solicited.

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If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,

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Encs.: TERMINAL DISCLAIMER and Form PTO-2038 in the
amount of \$130